Testimony of
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Federal Energy Regulatory Commission
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Mr. Chairman and Members of the Committee:

Good morning. My name is Kevin A. Kelly and I am the Director of the Division of Policy Innovation and Communication within the Federal Energy Regulatory Commission's Office of Markets, Tariffs and Rates. I am appearing here today as a Commission staff witness, and I do not speak for the Commission itself or for any individual Commissioner.

Thank you for the opportunity to speak today on how the reliability of electric service is being affected by the industry's restructuring, and the Commission's role in ensuring the reliability of service. Restructuring is bringing many new participants into the electric business, changing the roles of traditional participants, increasing the number of wholesale power transactions, as well as increasing the distances over which power transactions take place. These changes place new stresses on the transmission system and raise questions about whether today's industry, as it is currently structured, will provide the additional generation and transmission investment needed for reliable electric service for our nation.

The Commission's fundamental role in the electric utility industry is to regulate public utilities with respect to the sale of electric energy at wholesale in interstate

commerce and the transmission of electric energy in interstate commerce. The Commission's role, thus, is to serve essentially as an economic regulator. With certain exceptions, the Commission does not regulate the service provided by municipal utilities, most electric power cooperatives, federal power marketing administrations and the Tennessee Valley Authority.

In layman's terms, "electric reliability" simply is a measure of how often a customer's electric power supply is unexpectedly interrupted. For most customers, reliability means that the lights come on when they flip a switch. For some customers today, however, reliability may also refer to whether there are power interruptions for a tiny fraction of a second (which most of us would not notice but a computer would), whether the electric current maintains a frequency of 60 cycles per second so the electric clocks keep good time, or whether the voltage remains at the right level so that voltage-sensitive equipment operates properly.

Since the electric power industry began, reliability has been primarily the responsibility of the customer's local utility. To ensure reliability, the utility must have access to three things: generators to create electric power; high voltage transmission facilities to move that power economically over long distances; and lower voltage distribution lines to deliver the power to customers in a local area. Power systems engineers distinguish two facets of reliability: adequacy, which means having enough of these facilities to avoid interruptions; and security, which means operating them within safe limits and in a coordinated manner to avoid interruptions.

Almost all the power interruptions of the typical customer are due to distribution system outages. These occur when, for example, a tree falls on a neighborhood power line or a digger cuts an underground electric cable. Although common, distribution outages affect only a small area. Transmission problems, on the other hand, can affect a large area, covering many states in rare cases. These may be caused by such problems as a lightning strike or an ice storm disabling one or more transmission lines. Generation adequacy has been, until recently, the least frequent cause of reliability problems in the United States.

Utilities have been accountable to state utility commissions or other local regulators for reliable service. A typical state will keep statistics on distribution system interruptions in various neighborhoods, inspect the transmission system rights-of-way for unsafe tree growth near power lines, and set requirements for “reserve” generation capability to cover unexpected demand growth and unexpected outages of power plants. State or local regulators also exercise the authority of eminent domain and have siting authority for new generation, transmission, and distribution facilities needed to maintain an adequate power system.

A major blackout affecting several states in the Northeast in 1965 was caused by poor and uncoordinated transmission system operating practices. President Johnson directed our agency's predecessor, the Federal Power Commission (FPC), to investigate and report on this power failure. The FPC issued its report in December 1965, in which it stated:

> When the Federal Power Act was passed in 1935, no specific provision was made for jurisdiction over reliability of service for bulk power supply from interstate grids, the focus of the Act being rather on accounting and rate regulation. Presumably the reason was that service reliability was regarded as a problem for the states. Insofar as service by distribution systems is concerned this is still valid, but the enormous development of interstate power networks in the last thirty years requires a reevaluation of the governmental responsibility for continuity of the service supplied by them, since it is impossible for a single state effectively to regulate the service from an interstate pool or grid.

Northeast Power Failure, A Report to the President by the Federal Power Commission, p. 45 (Dec. 6, 1965).

Also as a response to this power failure, the industry formed the North American Electric Reliability Council (NERC). NERC is a voluntary membership organization that sets rules primarily for transmission security in the lower 48 states, almost all of southern Canada, and the northern part of the Baja peninsula in Mexico. More detailed rules are prescribed by ten regional reliability councils, which are affiliated with NERC.

Recent changes in the electric power business tend to leave more matters affecting reliability outside the exclusive control of the local utility. Electricity trading patterns are becoming increasingly regional and reliability is now more likely to be affected by the actions of parties that may be several states away. This means that it is more important than ever to have clear reliability rules that are observed by everyone. Unfortunately, NERC lacks authority to enforce its rules. Because changes in the industry increased both the incentive for, and frequency of, NERC rule violations, NERC now advocates

making transmission reliability oversight a government function so that interstate and international reliability rules can be enforced uniformly. (NERC's proposal would not address generation and distribution issues.)

The Commission has no statutory authority to promulgate and enforce a set of mandatory reliability standards. The Federal Power Act contains only limited authorities on reliability. Under FPA section 202(c), for example, whenever the Department of Energy determines that an "emergency exists by reason of a sudden increase in the demand for electric energy, or a shortage of electric energy or of facilities for the generation or transmission of electric energy . . . or other causes," it has authority to order "temporary connections of facilities and such generation, delivery, interchange or transmission of electric energy as in its judgment will best meet the emergency and serve the public interest." The Department of Energy exercised this authority several months ago in ordering emergency sales of power to California.

Under sections 205 and 206, the Commission must ensure that all rates, terms and conditions of jurisdictional service (including "practices" affecting such services) are just, reasonable and not unduly discriminatory or preferential. These sections generally have been construed as governing the commercial aspects of service, instead of the reliability aspects. However, there is no bright line between "commercial practices" and "reliability practices."

Indeed, the Commission has acknowledged that reliability issues may sometimes fall within its ratemaking jurisdiction. In Green Mountain Power Corp., 59 FERC ¶

61,213 (1992), the utility filed new transmission rates, and customers intervened and asserted that they were subject to rolling blackouts and voltage reductions. The customers asked the Commission to condition its acceptance of the transmission rates on Green Mountain's commitment to upgrade or construct new facilities. The Commission ruled that the reliability issues could be fully addressed in the section 205 proceeding as an issue of whether rates should be adjusted to reflect the quality of service. The Commission said, "reliability concerns of this type, implicating the firmness of contractually agreed-upon service and the possibility of undue discrimination, 'bear upon the reasonableness of rates under a contract which is subject to the Commission's jurisdiction.'" (Quoting North Carolina Electric Membership Corp. v. Virginia Electric and Power Co., 52 FERC ¶ 61,298 (1990)).

Similarly, in New York State Reliability Council, 90 FERC ¶ 61,313 (2000), the NYSRC submitted a filing to reduce a generation adequacy measure, called the installed capacity requirement, for the New York Control Area from 22 percent to 18 percent. Commission approval of such a reliability standard was required by a previously-filed agreement between the NYSRC and the New York ISO. The Commission accepted the reduced installed capacity requirement, stating that certain reliability provisions may affect the rates, terms and conditions of jurisdictional transmission and power sales services within the Commission's exclusive jurisdiction. On the merits of the change, however, the Commission found only that the change "does not appear to have an adverse effect on matters within our exclusive jurisdiction."

Finally, in Village of Freeport v. Consolidated Edison Co. of New York, Inc., 87 FERC ¶ 61,301 (1999), the Commission set for hearing a complaint alleging numerous outages of firm transmission service. In doing so, the Commission defined the issue as whether the utility had "followed good utility practice in providing the firm service required by the [Commission's] pro forma tariff and provided not unduly discriminatory electric transmission service to Freeport, and if it has not, what remedies are appropriate."

In short, FPA sections 205 and 206 require the Commission to consider reliability issues only in limited circumstances. In setting rates within the zone of reasonableness, the Commission may consider the adequacy of service. Even in those cases, however, the Commission is not deciding whether a particular reliability standard is acceptable per se but whether the rates, terms and conditions of jurisdictional service associated with that standard are just, reasonable and not unduly discriminatory or preferential from a commercial perspective.

The remaining authorities granted to the Commission in the area of reliability are very limited. For example, under FPA section 207, if the Commission finds, upon complaint by a State commission, that "any interstate service of any public utility is inadequate or insufficient, the Commission shall determine the proper, adequate or sufficient service to be furnished," and fix the same by order, rule or regulation. The Commission cannot exercise this authority except upon complaint by a State commission.

The Public Utility Regulatory Policies Act of 1978 also provides limited authority on reliability. For example, under PURPA section 205, the Commission can exempt

electric utilities from state laws that prevent voluntary coordination of facilities and resources. Under PURPA section 209(b), the Department of Energy, in consultation with the Commission, may ask the reliability councils or other persons (including federal agencies) to examine and report on reliability issues. Under PURPA section 209(c), the Department of Energy, in consultation with the Commission, and after public comment, may recommend reliability standards to the electric utility industry, including standards with respect to equipment, operating procedures and training of personnel.

The paucity of federal authority to address reliability issues, and increasing concern about the shortcomings of the traditional voluntary approach to reliability issues, have led some in the industry to seek other approaches. For example, one approach that has been pursued is enforcing reliability standards through contracts. Public utilities may voluntarily include reliability-related provisions in contracts or tariffs filed with the Commission because they affect or relate to the rates, terms and conditions of jurisdictional service. If reliability provisions in Commission-jurisdictional contracts are accepted and on file with the Commission, the Commission can enforce the reliability-related provisions against public utility parties to the contracts. Enforcement of such provisions against non-public utility parties (e.g., municipal utilities, most electric power cooperatives and federal power marketing administrations) may have to be pursued in the appropriate state court or other forum by the public utility parties to the contracts.

A system of such contractual arrangements has been established by utilities in the Western Systems Coordinating Council, the regional reliability council for the Western

United States. When the contracts were filed, the Commission offered no opinion on the technical adequacy of the WSCC standards, but did approve them as consistent with the "just and reasonable" standard of the Federal Power Act. Specifically, the Commission stated that:

> we do not intend to assume the role the regional reliability groups have traditionally performed in developing reliability criteria. Instead, we will consider such criteria only to the extent needed to fulfill our traditional role of ensuring that rates, terms and conditions of jurisdictional service, as distinct from reliability criteria, satisfy FPA requirements.

Western Systems Coordinating Council, 87 FERC ¶ 61,060 at 61,234 (1999) (citing Central and South West Services, Inc., Opinion No. 332, 48 FERC ¶ 61,197 at 61,733 n.24, order on reh'g, Opinion No. 332-A, 49 FERC ¶ 61,118 (1989)).

The effectiveness of the WSCC arrangement and the Commission's ability to enforce it have not been fully tested. But, a voluntary contractual regime is not the simplest or most effective means of establishing and adequately enforcing reliability standards. It depends solely on the willingness of public utilities to make voluntary filings, and even then, it may not capture all electric facilities in a region because many of those facilities may be controlled by utilities that are not subject to the Commission's jurisdiction under sections 205 and 206 of the FPA. Reliability is at risk to the extent that not all market participants are covered by the same requirements.

Another approach to ensuring reliability is enacting federal legislation. This year, on May 17, the Administration released its National Energy Policy Report. The Report

recommends that the President direct the Secretary of Energy to work with the Commission to improve the reliability of the interstate transmission system and to develop legislation providing for enforcement by a self-regulatory organization subject to the Commission's oversight.

I believe a legislative approach is preferable to the contractual approach discussed above. I take no position, however, on whether the legislation should be based on NERC's proposal or any other version of reliability legislation.

The Commission's potential role in overseeing the establishment of a bulk power reliability organization and standards would not infringe or compromise the ability of states to ensure the reliability of electric distribution systems on behalf of retail customers. Reliability standards are now, and would continue to be, developed by market participants through regional and national self-regulating organizations. Local and regional protocols should continue to be developed and agreed to at the regional level. Reliability protocols that states rely on should be coordinated with regional organizations that represent other parts of the interconnected grid. The primary effect of legislation on reliability would be to make the rules enforceable. Any such legislation should contain avenues for appeal or review of rules by parties, including states, who believe that the rules need to be amended or changed to better protect the reliability of their service or who feel that the rules are unjust, unreasonable or unduly discriminatory.

Congress should understand, however, that mandatory reliability rules alone are not enough to ensure the reliability of the grid. For example, the Commission has

encouraged the formation of regional transmission organizations (RTOs), to overcome the inefficiencies of the highly balkanized way in which the interstate transmission grid is now operated. In adopting its Order No. 2000 rule on RTOs, the Commission set out at length the need for an RTO to ensure reliability in each region. The needs include coordinated operation and maintenance of interconnected transmission systems, improved determination of transmission system throughput capability, and unified regional planning of necessary grid additions. In Order No. 2000, the Commission stated in particular that an RTO must have the authority to ensure the short-term reliability of the regional grid and must be responsible for planning, and for directing or arranging, necessary transmission expansions and upgrades that will enable it to provide efficient and reliable transmission service.

We also must have adequate generating resources. For example, a current issue is whether those who sell power to retail customers must have a specified percentage of generation reserves. Also, as the Commission required in its Order No. 888, all public utility transmission providers must offer ancillary services to their transmission customers. These include, e.g., spinning and non-spinning generation reserves.

We also need to find ways to encourage and facilitate the construction of new transmission facilities. Market rules must elicit sufficient investment in new transmission facilities. For example, to provide transmission owners with an incentive to meet the needs of transmission users, the Commission could adopt performance-based rates

reflecting the reliability of a transmission owner's service. The Commission already has authority to adopt such rate mechanisms under section 205 of the Federal Power Act.

In closing, the restructuring of the electric power industry makes necessary a careful consideration of the tools for ensuring the reliability of electric service. The Commission has only limited authority to address reliability, and the need for new approaches is clear. Federal transmission reliability legislation is one such approach, but alone is not sufficient. The nation must also develop regional transmission organizations for reliable grid operation and must develop its generation and transmission infrastructure.